

REMARKS

In the Office Action, claims 1-21 were rejected. By the present Response, claims 1-21 are amended. Upon entry of the amendments, claims 1-21 will be pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. §102

Claim 1 was rejected under 35 U.S.C §102(b) as being anticipated by U.S. Patent No. 5,875,181 (hereinafter "Hsu"). Claims 1, 6, 10 and 13 were rejected under 35 U.S.C §102(e) as being anticipated by U.S. Patent No. 6,580,716 (hereinafter "Falk '716").

Claim 1 and the Claims Depending Therefrom.

By the present response, independent claim 1 is amended to include, particularly point out and distinctly claim the recited subject matter. Claims 2-12 are also amended.

Hsu and Falk '716 fail to disclose a communications network that is dynamically reconfigurable to support open system interconnection (OSI) modeled communication.

Amended independent claim 1 recites, *inter alia*, a communications network comprising a plurality of nodes including at least one earth station. Claim 1 further recites the communications network as comprising at least one spacecraft. As amended, the spacecraft of claim 1 comprises an active node of the communications network *that is dynamically reconfigurable to support an open system interconnection (OSI) modeled communication*. This feature is clearly described in the application and no new matter is added by the amendment.

The invention recited in claim 1, therefore, is inherently different from the communication networks recited by Hsu and Falk '716. With respect to Hsu, the reference describes an ATM switch and networking components for a satellite-based CDMA uplink and downlink transmission scheme. While the satellite is able to transmit and receive data from the networked stations, and perform certain processing, there is no indication whatsoever in Hsu that the satellite is or even could be made dynamically reconfigurable to support open system interconnection modeled communication. Indeed, it would not appear possible or even beneficial for the satellite node to be provided with such reconfiguration functionality given its dedicated role in the network. Certainly the reference does not support this contention. Accordingly, Hsu does not support a *prima facie* case of anticipation of claim 1 as amended.

Regarding Falk '716, this reference describes a distributed ATM switch used in a network that include a processing satellite. The reference does not describe, nor does the Examiner argue that it does, a system that supports open system interconnection (OSI) modeled communication. This feature was originally recited in claims 2, 3, and 4, which were not rejected by the Examiner in view of Falk '716 alone. Accordingly, for this reason alone Falk '716 does not support a *prima facie* case of anticipation. Moreover, the reference does not disclose or even suggest that the satellite could be configured to constitute an active node that is dynamically reconfigurable as now recited in claim 1. For this additional reason, the reference simply cannot support a *prima facie* case of anticipation.

For the reasons summarized hereinabove, Applicant respectfully submits that the references relied upon by the Examiner cannot support a *prima facie* case of anticipation of claim 1 as amended. Accordingly, Applicant respectfully submits that independent claim 1 and claims depending therefrom are allowable and respectfully request the Examiner to reconsider rejection of the claims.

Claim 13

Claim 13 was also rejected under 35 U.S.C §102(e) for being anticipated by Falk '716.

Falk '716 fails to disclose a communications network that is dynamically reconfigurable to support OSI modeled communication.

Amended claim 13 recites, *inter alia*, a method for dynamically configuring a spacecraft to function as an active node of a communications network. The method comprises transmitting an object from an earth station to the spacecraft. The object comprises at least one method for configuring the spacecraft to include a node operating system and at least one execution environment. The spacecraft is dynamically reconfigurable to support OSI modeled communication.

For at least the reasons summarized hereinabove, Applicant submits that claim 13 is allowable because Falk '716 cannot support a *prima facie* case of anticipation of claim 13 as amended. In particular, Falk '716 fails to teach or suggest a spacecraft that is dynamically reconfigurable to support OSI modeled communication. Accordingly, Applicant respectfully requests the Examiner to reconsider the rejection.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 2, 3, 4, 5, 7- 9, 11-12, and 14-21 under 35 U.S.C §103(a) as obvious in view of Falk '716 in view of various secondary references. All of these claims are believed to be clearly patentable for reasons summarized below.

Dependent claims.

Because claims 2, 3, 4, 5, 7- 9 and 11-12 depend directly or indirectly from allowable base claim 1, they are allowable by virtue of such dependency, as well as

for the subject matter they separately recite. Thus, Applicant requests that rejection of claims 2, 3, 4, 5, 7- 9 and 11-12 under 35 U.S.C §103(a) be withdrawn.

Claim 14 and the Claims Depending Therefrom.

The Examiner rejected claim 14-18 under 35 U.S.C §103(a) as being unpatentable over Falk '716 in view of U.S. Patent No. 6,078,577 (hereinafter "Bishop"). By the present response, independent claim 14 is amended to more particularly point out and distinctly claim the recited subject matter.

Amended claim 14 recites, *inter alia*, a method for dynamically configuring a satellite to communicate over a network comprising at least one earth station and at least one satellite in accordance with an OSI reference model. The method comprises transmitting an object from an earth station to a satellite, and the object comprising data conforming to at least one protocol and executable code for implementing the protocol at the satellite. The method also includes receiving the object at the satellite, extracting at least the executable code from the object at the satellite, temporarily storing at least the executable code in memory at the satellite, dynamically reconfiguring the satellite to support the OSI reference model and executing the code for implementing at least one layer of the OSI reference model.

Falk '716 fails to disclose the use of an OSI reference model and dynamic reconfiguration of a satellite.

As noted above, the Examiner relied upon Falk '716 for disclosing a method of communication over a network.

However, also as discussed above, Falk '716 is devoid of any teaching of using an OSI reference model. The reference teaches only the use of an ATM protocol. Consequently, the reference cannot possibly teach or suggest using the OSI reference model in lieu of the ATM protocol since there are inherent differences

between the two. Moreover, the reference does not and cannot teach means for dynamically reconfiguring the satellite for the OSI reference model as also discussed above.

Bishop fails to disclose dynamically reconfiguring the satellite to support the OSI reference model.

The Examiner further relies upon Bishop for disclosing a method for dynamically configuring a satellite. Claim 14 has been amended to more particularly point out that it is a satellite that is reconfigured via the object and executable code. According to the Examiner, the “spacecraft” of the present application is comparable to the subscriber units 30, 32 disclosed in Bishop. Applicant notes that claim 14 now clearly recites a “satellite” and not a “spacecraft.”

Applicant has carefully reviewed Bishop and respectfully submits that Bishop does not teach dynamically configuring a satellite to support OSI reference model. Bishop distinctly differentiates between the satellite and the subscriber units. Bishop discloses that the subscriber units may be located above the Earth (i.e., an airplane), or anywhere on the surface of the Earth. However, Bishop fails to disclose that the subscriber units are satellites, and even specifically distinguishes the airplane 32 from the satellite. The satellite of Bishop is not dynamically reconfigurable via an object with executable code, or in any other manner.

No combination of Falk’716 or Bishop would include a method of dynamically reconfiguring a satellite as recited in independent claim 14.

Because neither of the references teach dynamically reconfiguring a satellite, the combination proposed by the Examiner cannot support a *prima facie* case of obviousness of claim 14. That is, absent the teachings of the present application, no combination could fairly include, *inter alia*, dynamically reconfiguring a satellite via

an object that includes executable code for implementing a layer of an OSI reference model.

For the reasons summarized hereinabove, Applicant respectfully submits that the references relied upon by the Examiner cannot support a *prima facie* case of obviousness of claim 14 as amended. Accordingly, Applicant respectfully submits that independent claim 14 and the claims depending therefrom are allowable.

Claim 21.

Claim 21 was rejected as obvious over Falk '716 in view of U.S. Patent No. 6,377,561 (hereinafter "Black"). Applicant submits that Falk '716 and Black, even in combination, provide no teaching or suggestion for a dynamically reconfigurable spacecraft node that supports an OSI reference model.

As noted above, Falk '716 does not teach or suggest OSI modeled communication, but relies upon pre-configured ATM protocol communications. Moreover, Falk '716 does not suggest a dynamically reconfigurable spacecraft node that supports such communication models.

The Black reference, while supporting OSI communications, as noted at column 29, beginning at line 28, does not foresee a dynamically reconfigurable spacecraft node that supports such communication models. In particular, any assignment of terminal ID's provided by Black relates to ID's for user traffic stations (UTS) and not for the spacecraft node itself. There is no suggestion whatsoever in the reference for dynamic reconfiguration of the spacecraft node. Accordingly, no combination of Falk '716 and Black would include all of the elements recited in claim 21. The combination cannot, therefore, support a *prima facie* case of obviousness of claim 21.

Moreover, due to the inherent differences between the OSI layers discussed by Black and the ATM protocol employed by Falk '716, a person skilled in the art would not be motivated to combine the teachings of Falk '716 and Black. The Examiner advanced, as a motivation for combining the references, need provide optimized dynamic bandwidth-on-demand on a packet-by-packet basis. However, neither of the references foresees this motivation or suggestion, and Applicant submits that the present application alone cannot be used to provide it. Moreover, even if such a motivation existed, this would not be sufficient to motivate complete modification of the system of either or both references so as to provide a dynamically reconfigurable spacecraft node that supports OSI modeled communications as required by claim 21. Applicants conclude that the Examiner has thus failed to establish a *prima facie* case of obviousness of claim 21 and request that the rejection under 35 U.S.C §103(a) be withdrawn.

Conclusion

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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